

COVER SHEET
Public Review Draft – June 2004

Title of Environmental Review: Environmental Assessment to Analyze Impacts of a National Marine Fisheries Service Determination that the Imnaha River Subbasin Tribal Resource Management Plan Submitted by the Nez Perce Tribe Satisfies the Tribal Section 4(d) Rule and Does Not Appreciably Reduce the Likelihood of Survival and Recovery of Snake River Spring/Summer Chinook Salmon

Evolutionarily Significant Units: Snake River Spring/Summer Chinook Salmon

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Legal Mandate: Endangered Species Act of 1973, as amended and implemented – 50 CFR Part 223

Location of Proposed Activities: Idaho, Snake River Basin, Imnaha River subbasin

Activity Considered: ESA determination regarding a Nez Perce Tribal Resource Management Plan for spring/summer chinook salmon in the Imnaha River in 2004, pursuant to the ESA Tribal 4(d) Rule

TABLE OF CONTENTS

1.0 Purpose Of and Need for the Proposed Action 1

1.1 Background 1

1.2 Description of the Proposed Action 2

1.3 Purpose Of and Need For the Action 2

1.4 Action Area 3

1.5 Scope 3

1.6 Relationship to Other Plans and Policies 4

2.0 Alternatives Including the Proposed Action 6

2.1 Alternative 1 (No Action) -Issue No Determination that Tribal Plan Satisfies Tribal 4(d) Rule 6

2.2 Alternative 2 (Proposed Action) - Issue Determination that the Tribal Plan Satisfies Tribal 4(d) Rule 6

2.2.1 Tribal Fishery Management 7

2.2.2 Anticipated Dates and Duration of the Activity 7

2.2.3 Measures to Minimize, Mitigate, and Monitor Impacts of Fisheries 8

2.3 Potential Alternatives Considered But Not Analyzed in Detail 10

3.0 Affected Environment 10

3.1 Riparian Habitat 10

3.2 Water Quality 11

3.3 Anadromous Fish Listed Under the ESA 11

3.3.1 Snake River Spring/Summer-run Chinook Salmon 12

3.3.2 Snake River Fall Chinook Salmon 16

3.3.3 Snake River Sockeye Salmon 16

3.3.4 Snake River Steelhead 17

3.4 Other Fish Species Listed Under the ESA 18

3.5 Non-listed Fish Species 18

3.6 Terrestrial Organisms 19

3.7 Social and Economic Resources 19

3.8 Environmental Justice 21

3.9 Tribal Trust Responsibilities and Treaty Rights 24

4.0 Environmental Consequences 24

4.1 Alternative 1 (No Action) – Issue No Determination that Tribal Plan Satisfies Tribal 4(d) Rule 24

4.1.1 Effects on Riparian Habitat 25

4.1.2 Effects on Water Quality 25

4.1.3 Effects on Anadromous Fish Listed Under the ESA 25

4.1.4 Effects on Other Fish Species Listed Under the ESA 26

4.1.5 Effects on Non-listed Fish Species 26

4.1.6 Effects on Terrestrial Organisms 27

4.1.7 Effects on Social and Economic Resources 27

4.1.8 Environmental Justice 28

4.1.9 Tribal Trust Responsibilities and Treaty Rights 28

Public Review Draft

4.2 Alternative 2 (Proposed Action) – Issue Determination that the Tribal Plan Satisfies Tribal 4(d) Rule 29

4.2.1 Effects on Riparian Habitat 29

4.2.2 Effects on Water Quality 29

4.2.3 Effects on Anadromous Fish Listed under the ESA 29

4.2.4 Effects on Other Fish Species Listed Under the ESA 31

4.2.5 Effects on Non-listed Fish Species 32

4.2.6 Effects on Terrestrial Organisms 32

4.2.7 Effects on Social and Economic Resources 32

4.2.8 Environmental Justice 33

4.2.9 Tribal Trust Responsibilities and Treaty Rights 34

4.2.10 Cumulative Impacts 34

5.0 Agencies Consulted 35

6.0 References 36

Public Review Draft

1.0 Purpose Of and Need for the Proposed Action

1.1 Background

NOAA's National Marine Fisheries Service (NMFS) is the lead agency responsible for administering the ESA as it relates to listed salmon and steelhead. Actions that may affect listed species are reviewed by NMFS under section 7 or section 10 of the ESA or under section 4(d), which can be used to limit the take prohibition under section 9. NMFS issued a final Endangered Species Act (ESA) rule pursuant to section 4(d) (4(d) Rule), adopting regulations necessary and advisable to conserve threatened species (50 CFR 223.203). This 4(d) Rule applies the take prohibitions in section 9(a)(1) of the ESA, and also sets forth specific circumstances when the prohibitions will not apply, known as 4(d) limits. NMFS also issued a separate 4(d) Rule (50 CFR 223.209) describing the limitation of application of take prohibitions regarding activities carried out pursuant to a Tribal Resource Management Plan (TRMP). The section 4(d) rule regarding tribal resource management plans declares: "The United States has a unique relationship with tribal governments as set forth in the Constitution, treaties, statutes, and Executive orders." With regard to fisheries and resource management, NMFS declared, in the Tribal 4(d) rule, that section 9 take prohibitions would not apply to activities carried out under those Tribal plans deemed by the Secretary to not appreciably reduce the likelihood of survival and recovery of a listed ESU. The Nez Perce Tribe's (Tribe) TRMP is submitted pursuant to the Tribal 4(d) Rule.

In the review of a TRMP, NMFS must consider whether the Plan satisfactorily addresses the criteria contained in the ESA 4(d) Rule. If NMFS determines that the TRMP "...is not likely to appreciably reduce the likelihood of survival and recovery..." and otherwise satisfies the Tribal 4(d) Rule, then NMFS will publish that determination. NMFS' determination constitutes the federal action that is subject to analysis as required by the National Environmental Policy Act (NEPA).

NMFS seeks to consider, through NEPA analysis, how its pending action may affect the natural and physical environment and the relationship of people with that environment. NMFS is also required to review compliance of ESA actions with other applicable laws and regulations. The NEPA analysis provides an opportunity to consider, for example, how the action may affect conservation of non-listed species, socioeconomic objectives that seek to balance conservation with wise use of affected resources, and other legal and policy mandates. Of particular concern is whether pending actions are consistent with treaties and the associated federal treaty trust responsibilities, including the requirement to regulate Indian fisheries by the least restrictive means consistent with conservation needs. As stated in Secretarial Order 3206, American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act, NMFS is "... to ensure that Indian tribes do not bear a disproportionate burden for the conservation of listed species ..."

1.2 Description of the Proposed Action

The Tribe submitted a TRMP (NPT 2004) for management of chinook in the Imnaha River subbasin belonging to the Snake River Spring/Summer-run Chinook Salmon Evolutionarily Significant Unit (ESU) for review under the Tribal 4(d) Rule. On May 10, 2004, the co-managers adjusted the anticipated run sizes in response to an updated of the mainstem Columbia River run size projections, and the fisheries described in the TRMP were adjusted in response (J. Oatman, NPT, May 18, 2004, pers. comm., to H. Pollard, NMFS). This assessment includes the updated run size and proposed fishery information.

The proposed action is the implementation of harvest activities described in the TRMP, in conjunction with on-going management of chinook salmon resources in the Imnaha River subbasin. The Federal action evaluated here is the proposed determination by the Secretary (through the Northwest Regional Administrator for NOAA's National Marine Fisheries Service (NMFS)) that the Tribe's TRMP does not appreciably reduce the likelihood of survival and recovery of the listed Snake River spring/summer chinook salmon.

The TRMP describes management activities, including Tribal ceremonial and subsistence fisheries and non-tribal recreational fisheries, proposed to be implemented during the period May 1, 2004, through July 31, 2004. Activities identified in the TRMP include ceremonial and subsistence fisheries managed by the Tribe and recreational fisheries managed by the State of Oregon's Department of Fish and Wildlife (ODFW), co-managers of the resources in the Imnaha subbasin, which incorporate conditions for the conservation and restoration of salmon stocks. The plan also addresses the management strategies used by the Tribe and State to ensure attainment of natural spawning escapement objectives and operation of an experimental artificial propagation program subject to ESA section 10 (a)(1)(A) permit number 1128, which was issued on September 20, 2000 (NMFS 2000).

Two alternatives are considered in this EA: (1) NMFS does not determine that the TRMP satisfies the criteria of the Tribal 4(d) Rule, and (2) NMFS determines that activities implemented as described in the TRMP would satisfy the Tribal 4(d) Rule. No other alternatives were found that were reasonable and/or appreciably different from these two alternatives (Section 2.0, Alternatives Including the Proposed Action).

1.3 Purpose Of and Need For the Action

The purpose of the proposed action is to implement Tribal ceremonial and subsistence fisheries and non-tribal recreational fisheries in the Imnaha River in 2004 and to comply with the requirements of the ESA, and specifically with the Tribal 4(d) Rule. The management of the proposed fisheries would be consistent with, and would take place within the greater context of, the existing artificial propagation program designed to manage the spring chinook salmon resources in the Imnaha River subbasin. The TRMP includes monitoring guidelines to assess the

success of management programs and to ensure that the proposed harvest would not prevent the survival and recovery of ESA-listed salmon and steelhead.

The need for the proposed action is to conserve and enhance natural populations while meeting tribal trust responsibilities, providing tribal ceremonial and subsistence needs, and providing recreational fishery opportunities.

1.4 Action Area

The action area is the mainstem of the Imnaha River subbasin, an Oregon tributary of the Snake River. The proposed fisheries would take place in the Imnaha River from its confluence with the Snake River to 60 feet downstream of the Gumboot Creek weir, a distance of approximately 48 miles (Figure 1). The Tribal fishery would occur through the entire action area; the state-managed recreational fishery would occur between the river mouth and Summit Creek Bridge (approximately 38 miles).

The Imnaha River watershed, located almost entirely within Wallowa County, is one of the smaller subbasins in the Snake River Basin. It consists of 534,814 acres, or about 836 square miles. Approximately 78 percent of the subbasin is classified as Wilderness, National Recreation Area, or other protective category (much of the rest is designated for timber harvest). The Imnaha subbasin lies within and adjacent to the Hells Canyon National Recreation Area. This Recreation Area provides an outstanding diversity of habitats for wildlife. This diversity is enhanced by the abrupt changes in vegetation resulting from changes in aspect, elevation, temperature, moisture, geology, soil depth, the effects of fire, and the management activities and influence of man. The natural physical characteristics of the Imnaha Subbasin have been altered by human-caused activities including timber harvest, road construction, water withdrawals, hydroelectric production, grazing, recreation, fires and fire management, flood and erosion control, powerlines, mining and activities on private land including livestock ranching (USFS 1998).

1.5 Scope

The scope of the action considered here includes only activities that would occur under the Nez Perce TRMP in 2004. The TRMP implements elements of an existing NMFS section 10 permit and cooperative agreements between the Tribe and State (NMFS 2000). The effects of the artificial propagation program and supplementation of natural spawning portions of the action on the human environment have already been evaluated, and a Finding of No Significant Impact was issued (NMFS 1993). However, the conduct of Tribal ceremonial and subsistence fisheries and state recreational fisheries that might be implemented in 2004 associated with the artificial propagation program have not been evaluated.

1.6 Relationship to Other Plans and Policies

The Proposed Action analyzed in this EA relates to other plans and policies. Treaty trust responsibilities are discussed in subsection 1.1, Background. The management of the Imnaha River chinook hatchery program is detailed in section 10(a)(1)(A) permit 1128 (NMFS 2000), and annual operating plans developed by the state and Tribal co-managers (ODFW 2004a). Harvest management and dispute resolution between the State and Tribe is under the jurisdiction of *United States vs. Oregon*, the ongoing Federal court proceeding which deals with Tribal fishing rights on the Columbia River and major tributaries.

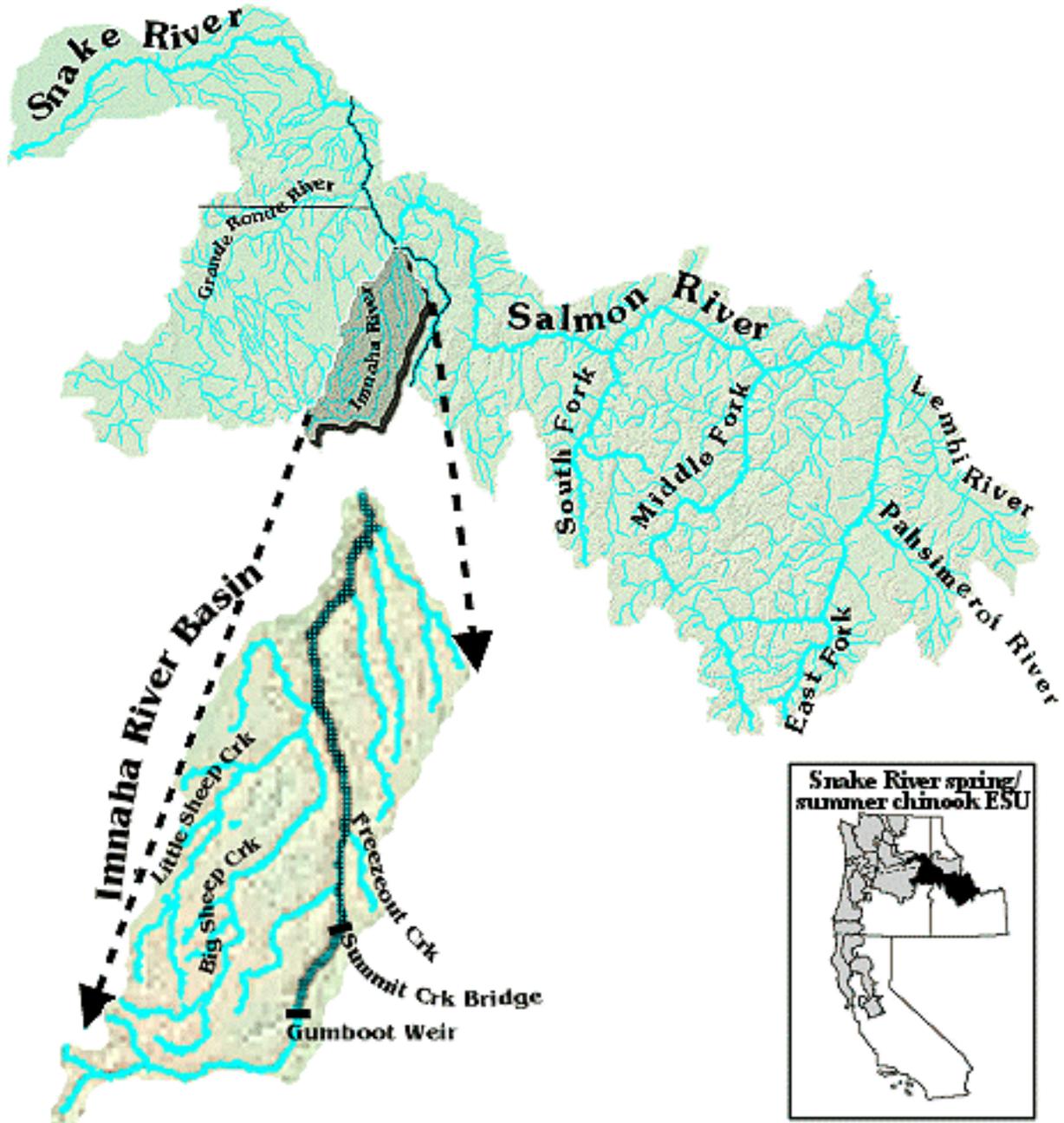
The Nez Perce Tribal Executive Committee is the elected body of Tribal members who carry out the mandates of the Tribal constitution and the treaty with the United States, including setting fishing regulations for tribal members and establishing management plans for tribal trust resources. The ODFW is the state agency charged with responsibility to protect fish and wildlife species and managing hunting and fishing. The ODFW consists of a seven-member citizen commission appointed by the Governor of the state, the director (appointed by the commission) and a statewide staff of 1000 permanent employees and operates under Oregon State law (ORS chapters 496 through 513). The Commission formulates general state programs and policies concerning management and conservation of fish and wildlife resources and establishes seasons, methods and bag limits for recreational and commercial take. The Department staff carries out Commission policy.

The Tribal Executive Committee and the ODFW are responsible for compliance of their decisions and actions with the state and Tribal constitutions, state, tribal, and Federal statutes, treaties, and court orders.

In addition, the Proposed Action is consistent with on-going ESA recovery planning. Recovery plans are being developed in most subbasins in the Columbia River system. These recovery plans will contain: (1) measurable goals for delisting, (2) a comprehensive list of the actions necessary to achieve delisting goals, and (3) an estimate of the cost and time required to carry out those actions. All factors that have been identified as leading to the decline of ESA-listed species will be addressed in these recovery plans. For ESA-listed salmon and steelhead, these factors include hydroelectric operations, harvest, habitat use, and artificial propagation. The TRMP describes harvest management actions integrated with broodstock management objectives in the Imnaha River subbasin.

The Proposed Action would also be consistent with the Basinwide Salmon Recovery Strategy, which was developed by the Federal government to restore ESA-listed salmon and steelhead throughout the Columbia River basin. The strategy outlines specific actions to be taken by the Federal government and proposes additional actions for tribal, state, and local governments. These actions include improving hatcheries, limiting salmon harvest, and restoring salmon habitat. For more details on the management of fishery harvest in recovery strategies, please see the Basin Wide Salmon Recovery Plan (Federal Caucus 2000).

Figure 1. The geographic range of the Snake Basin spring/summer chinook salmon ESU, including the location of the Imnaha River subbasin and the area (generally the Imnaha River mainstem from the mouth to Gumboot weir) of the proposed tribal ceremonial and subsistence and state-managed non-tribal recreational fisheries proposed for 2003. See text for details on fishery dates and locations.



2.0 Alternatives Including the Proposed Action

Alternatives considered in this EA are: (1) to not issue a determination that the fisheries implemented under the terms of the TRMP do not appreciably reduce the likelihood of survival and recovery of the listed fish (the No Action alternative); or (2) to issue such a determination. NMFS has evaluated the impacts of actions proposed in the TRMP with regards to the standards of the Tribal 4(d) Rule (NMFS 2004). No other alternatives were identified that would meet the purpose and need for the action (see subsection 2.3, potential alternatives considered but not analyzed in detail). The following sections describe the proposed action and alternatives and evaluate the potential specific impacts of NMFS' proposed determination.

2.1 Alternative 1 (No Action) -Issue No Determination that Tribal Plan Satisfies Tribal 4(d) Rule

Under the Tribal 4(d) Rule, the Secretary considers a Tribal Resource Management Plan to determine whether implementation of the Plan would appreciably reduce the likelihood of survival and recovery of the listed salmonids that may be affected by the Plan. The alternative is for the Secretary to determine that the plan does not meet the criteria of the Tribal 4(d) Rule, in which case activities conducted under this plan would not qualify for the limitations on application of section 9 take prohibitions. This does not necessarily mean that those activities could not occur. Those activities authorized under the existing section 10(a)(1)(A) research/enhancement permit 1128 would continue. Permit 1128 authorizes direct and incidental take of listed chinook salmon in actions related to the operation of the artificial propagation program, including collection of hatchery brood stock, releasing fish above the weir for natural spawning, and relocation of adult salmon into suitable, but under-used, habitat within the Imnaha River subbasin to supplement natural spawning. Several other mechanisms exist that provide for evaluation of activities with respect to the ESA. However, such other options may not apply to the specific situation considered here, and likely could not be processed in time to address fishery activities proposed to begin in 2004. In the absence of some other process's completion, tribal and recreational salmon fisheries likely would not occur in 2004. Recreational fishing for trout would continue under the state's general fishing regulations. For the purpose of this analysis, and because the possible outcome of other regulatory options is speculative, NMFS treats the No Action alternative as resulting in no Tribal or recreational salmon fishing in the Imnaha River subbasin in 2004. Broodstock collection activities and releases of hatchery-origin fish would still occur, consistent with permit 1128.

2.2 Alternative 2 (Proposed Action) - Issue Determination that the Tribal Plan Satisfies Tribal 4(d) Rule

Implementation of the TRMP would assure that spawning escapements, hatchery brood stock requirements, and supplemental adult releases would be achieved in accordance with cooperative agreements. A cooperative agreement between the Tribe and State provides for non-Tribal members to share in harvest under the TRMP (NPT 2004). Recreational chinook salmon

fisheries conducted by the State are coordinated with treaty Tribal fisheries, which may target the same species in the same water. Under the agreement, the State-managed fisheries must conform to harvest share agreements with the tribes, and the total impacts of all Tribal and State fisheries are considered in setting annual take quotas. Fisheries managed pursuant to the TRMP would be limited to a 5 percent impact on the naturally produced component of the population based on the runsize expected in 2004; this is estimated to allow a projected escapement of 926 naturally produced spring chinook salmon after the fisheries. The TRMP, as updated, describes a harvest of approximately 728 salmon (jacks and adults of natural- and hatchery-origin combined), which is approximately 20 percent of the total predicted return to the Imnaha River. Included in this total is an estimated 52 naturally produced fish, 5 percent of the predicted total natural return. The 5 percent impact represents the total for both Tribal and State-managed non-tribal fisheries that are proposed to take place in the subbasin, consistent with the artificial propagation management plan and the terms of the TRMP. If the returns are substantially lower than the pre-season estimates (less than 50%), the determination will be re-evaluated.

2.2.1 Tribal Fishery Management

Tribal fishing regulations are set by the Nez Perce Tribal Executive Council for fisheries within Tribal authority. The development of regulations is based on the best scientific and commercial data available, including evaluating status of populations, annual surveys of fishing activity and harvest, and public input. Biological information and recommendations are developed by the Tribal Fisheries Management Department, and adoption by the Tribal Executive Council is conducted following the Tribe's established protocols. The Tribal Executive Council also has the authority to modify fishing rules in-season, including emergency closures.

Records indicate that in 2004, for the fourth consecutive year, the number and composition of returning chinook salmon in the Imnaha River subbasin will be sufficient to provide for a limited fishery in addition to meeting spawning and conservation goals. The TRMP addresses only the management of the Imnaha River population of Snake River spring/summer chinook salmon, during the time that adults of this population are in the Imnaha River sub basin in 2004. The TRMP describes the allocation of adult salmon among natural spawning, brood stock for an artificial propagation program designed to aid in recovery of this population, release of adult spawners into under-utilized spawning habitat within the Imnaha River subbasin, and harvest in Tribal ceremonial and subsistence and state-managed non-Tribal recreational fisheries.

Salmon fishing opportunities are regulated on an annual basis, depending on counts and projections of returning adult salmon. Specific regulations for anadromous salmon, including time frame, duration, quotas, gear restrictions, and locations of fisheries are set annually when dam counts and population trend data predict the return of a harvestable component. The specific conditions that apply to the fisheries proposed for the Imnaha River in 2004 have led to the development of the fishery proposals in the TRMP that is the subject of this assessment.

2.2.2 Anticipated Dates and Duration of the Activity

The proposed Tribal fishing season extends from May 1 to July 31, or until the harvest number is achieved. Fishing gear permitted would include dip net, gaff, longbow, spear, and hook and line. All fish, jacks and adults alike, would count towards the harvest goal, and the fishery would target spring chinook salmon only; harvest of bull trout and steelhead would be prohibited. The fishery location would include the Imnaha River from its confluence with the Snake River to 60 feet downstream of the Gumboot Creek weir, a distance of approximately 48 miles (Figure 1). The fishery would target the peak of the Imnaha return, which, according to historic accounts and trap data from the Gumboot Creek weir, occurs at the mouth of the Imnaha River during the last two weeks in June, and further upstream at the weir in mid-July.

The proposed season for non-tribal fishers regulated by ODFW is from May 1 through July 4, between the river mouth and Summit Creek Bridge (approximately 38 miles) (ODFW 2004b). Chinook salmon fisheries would be closed on short notice when in-season monitoring indicates that criteria for harvest share or incidental take limits are met, or if the run-size expectation is less than half of that expected preseason.

The TRMP and this EA refer only to fishery management activities in waters of the Imnaha River subbasin in 2004. The TRMP describes fishery activities in the context of brood stock collection, which occurs at the Gumboot Creek weir; natural spawning escapement, which occurs throughout the Imnaha River subbasin; release of adult salmon to supplement natural spawning in Big Sheep Creek, Lick Creek, and other Imnaha River tributaries; and fishing activities that occur in the mainstem of the Imnaha River downstream from the Gumboot Creek weir. As stated above, in the absence of a TRMP, broodstock collection and releases of hatchery-origin fish would still take place.

2.2.3 Measures to Minimize, Mitigate, and Monitor Impacts of Fisheries

The TRMP describes measures intended to minimize and mitigate impacts of the proposed activities to the maximum extent practicable. Historical records of migration and distribution have been used in designing fisheries.

2.2.3.1 *Fishery Management*

The proposed fisheries are described in the TRMP. The fisheries would be managed conservatively and would reflect the use of a scientifically based approach to fishery management designed to avoid excessive take of listed species and to comply with the standards of the Tribal 4(d) Rule. Fisheries described in the TRMP would only affect the Imnaha River subbasin population of the Snake River Spring/Summer-run Chinook Salmon ESU and would be tiered to activities under ESA section 10 scientific research and enhancement permit number 1128 (see subsection 1.6, Relationship to Other Plans and Policies). The plan provides for education and

enforcement and is consistent with the goals of both the enhancement program and the ongoing Federal court jurisdiction in *U.S. v. Oregon*.

2.2.3.2 Accounting and Evaluation

The Tribe participates in regional committees that develop and analyze estimates of the number and composition of annual spawning runs and calculate harvestable numbers of anadromous fish. Information on fish tags recovered from sampled fish and other biological samples are shared with the state co-managers and Federal agencies involved. Consultation on ESA issues with the Federal agencies is ongoing and includes annual and in-season reports of activities and harvest that are required by section 10 permits and the continuing jurisdiction of *U.S. v. Oregon* (see subsection 1.6, Relationship to Other Plans and Policies).

2.2.3.3 Inseason Management

The primary method for enumerating and determining the composition of anadromous fish runs that may be affected by the fishery management activities proposed in the TRMP is the counting and biological sampling of fish as they migrate up the Columbia and Snake Rivers. Fish are physically counted and sampled as they pass the eight dams in the Federal Columbia River Power System. Once the salmon arrive in the Imnaha River subbasin, a large proportion, estimated by ODFW to average 72.7 percent, of the return is captured, enumerated, and sampled at a weir and fish trap located at the mouth of Gumboot Creek. The weir operation and sampling process is described in the permit application for the Imnaha River research and enhancement project (ODFW 1998), NMFS section 10(a)(1)(A) permit number 1128, which covers this activity (NMFS 2000), and the Annual Operating Plan jointly developed by the state and tribe (ODFW 2004a) (see section 1.6, Relationship to Other Plans and Policies). Additionally, the Tribal and State co-managers conduct spawning count surveys and other biological sampling of salmon distribution and production throughout the subbasin, and information from these activities would be used to monitor the status of the return and evaluate the on-going effects of the harvest. Index groups of salmon juveniles are marked with Passive Induced Transponder (PIT) tags and coded wire tags (CWT) which are then detected as the fish migrate to and from the ocean (PIT tags) and when the adult fish are collected at hatchery weirs, during spawning grounds surveys, and in fishery harvests (both PIT and CWT tags). Analysis of tag recovery data provides important information about migration, return numbers and timing, and survival of the fish.

Anadromous salmon fisheries may be evaluated by a variety of techniques that may include catch-card and telephone surveys, check stations, mandatory reporting, and roving creel census samples. Attempts are consistently made to update data and methodology to best represent the inseason progress of the run. The best available scientific and commercial data and methodology would be used in analyzing the resulting data. Inseason estimates of fishing activity and harvest would be shared with the Federal agencies and co-managers and adjustments are made when necessary.

NMFS would reevaluate its determination if: (1) the anticipated incidental harvest and mortality of listed fish considered in the determination are exceeded; (2) the actions described by the TRMP are modified in a way that causes an effect on the listed species that was not previously considered in NMFS' evaluation; (3) new information or monitoring reveals effects that may affect listed species in a way not previously considered; or (4) a new species is listed or critical habitat is designated that may affect NMFS' evaluation of the TRMP.

2.2.3.4 Funding

Funding for Nez Perce Tribal fishery monitoring and impact assessment in the Columbia River comes from the Northwest Power and Conservation Council (Council) Fish and Wildlife Program and Tribal funds. Funding for state monitoring and enforcement activities is derived from fishing license sales, Federal Aid to Fish and Wildlife funds, and the Council Fish and Wildlife Program.

2.3 Potential Alternatives Considered But Not Analyzed in Detail

No other alternatives were identified that would achieve the purpose and need for this activity. Potential options generally include increasing the number of fish produced by the hatchery program (to increase the number of fish available for harvest), or to decrease the allowable level of harvest (to be more protective of the natural component of the return). However, the management program currently in place for the Imnaha River carefully balances a number of objectives and concerns, to the extent that options measurably outside the bounds of the program are likely to have inappropriate and adverse effects on the natural resources. The program is designed to enhance the naturally spawning population, with the concomitant effect that, under a variety of conditions of run size and run composition, fish surplus to management objectives would be available for other purposes. Increases in program production would exceed the objectives of the extant program plan and, in any case, would not result in increased returns during the 2004 season. Decreases in harvest as run sizes decrease are part of the proposed action – decreases in harvest despite relatively large run sizes are not required to achieve conservation objectives and therefore would not meet the purpose and need as stated.

3.0 Affected Environment

Both the No Action and Proposed Action alternatives can potentially affect the physical, biological, social, and economic resources within the proposed action area. Below is a summary of the major components of the environment that would be affected by these alternatives and the current baseline condition.

3.1 Riparian Habitat

Much of the riparian vegetation in the Imnaha River has been modified over time and shade is limited, except in the upper reaches (NPT et al. 1990). Bank instability in Little Sheep, Big Sheep, and Camp Creeks, and some portions of the mainstem, has resulted from overgrazing and stream channelization. The facilities used in association with river fisheries, such as access sites and campgrounds, are all in place and in use by fishermen seeking trout and other resident fish species.

3.2 Water Quality

The Imnaha River is on the Oregon 303(d) list of impaired water bodies due to elevated temperature in the lower 49.5 river miles, between August 1 and July 15 (see www.deq.state.or.us/wq/303dlist/303dpage.htm, accessed May 5, 2004). While other water quality parameters in the Imnaha River have been impacted to an unknown degree by a variety of past and present land and water uses, these impacts are not likely a major factor limiting fish production. Though some seasonal low flows due to irrigation diversions occur, flows are generally adequate during the adult salmonid migrations and smolt outmigrations. Feedlots located along Little Sheep Creek, Camp Creek, and the lower mainstem may be contributing to riparian degradation, streambank stability problems, and manure derived sediments (NPT et al. 1990). The actual degree to which the Imnaha River's water quality is being impacted is unknown. The use of fertilizers could also be having some adverse effect on water quality. Overgrazing has been a major problem in the past and continues to be a major problem at the feedlots.

Water quality is also affected by the presence of salmonid carcasses in the water, as a result of fish dying after spawning, or dying during unsuccessful upstream migration. Freshwater stream environments in the Pacific Northwest are generally cold and lacking in dissolved nutrients. Anadromous salmon are a major vector for transporting marine nutrients across ecosystem boundaries (i.e., from marine to freshwater and terrestrial ecosystems). Nutrients and biomass extracted from the decomposing carcasses, eggs, and milt of spawning salmon restore the nutrients of aquatic ecosystems and stimulate biological production (Cederholm et al. 1999). Nutrients originating from salmon carcasses are also important to riparian plant growth. Direct consumption of salmon carcasses and secondary consumption of plants and small animals that are supported by carcasses are important sources of nutrition for both aquatic and terrestrial wildlife (Cederholm et al. 1999). Although decomposing salmon carcasses may cause temporary and localized appearances of compromised water quality, the nutrient cycling effect is vital to a fully functional ecosystem.

3.3 Anadromous Fish Listed Under the ESA

Since 1991, NMFS has identified 12 Evolutionarily Significant Units (ESUs) of Columbia River Basin salmon and steelhead as requiring protection under the ESA. Four of the listed ESUs originate in the Snake River basin. The ESUs expected to be impacted by fisheries evaluated in this EA and their current listing status are shown below. The ESA-listed populations often include some portion of artificially propagated fish as well as the wild/natural populations. Take prohibitions are in effect for Snake River spring/summer and fall chinook salmon (April 22, 1992, 57 FR 14653) and for Snake River sockeye salmon (November 20, 1991, 56 FR 58619). Take prohibitions for the ESA-listed steelhead ESU were promulgated by a section 4(d) Rule published June 10, 2000.

Aspects of the life history pertinent to this analysis, described in greater detail below, include:

- seasonal distribution and migration, to determine the likelihood of the species' presence during the proposed fisheries, and
- abundance, to enable evaluation of likely impacts of the proposed fisheries on the continued prospects for survival and recovery of the species.

3.3.1 Snake River Spring/Summer-run Chinook Salmon

The Snake River Spring/Summer-run Chinook Salmon (*Oncorhynchus tshawytscha*) ESU was listed as threatened on April 22, 1992 (57 FR 14653). This ESU includes spring/summer chinook salmon in the Snake River and tributaries. It includes all natural populations and certain hatchery-produced components of spring and summer chinook salmon populations in the mainstem Snake River and in the Tucannon, Grande Ronde, Imnaha, and Salmon River subbasins. Spring/summer chinook salmon returning to hatchery programs and supplementation programs in the Clearwater River are excluded because the native stocks were extirpated by dams, and the current populations were reintroduced after the dams were removed (Matthews and Waples 1991).

Spring chinook salmon destined for the Snake River and tributaries begin entering the Columbia River in late February and early March. Their abundance downstream from Bonneville Dam peaks in April and early May. All chinook salmon passing Bonneville Dam from March through May are counted as upriver spring chinook salmon. All chinook salmon passing Bonneville Dam from June 1 through July 31 are counted as summer chinook salmon. These fish enter the Snake River approximately two weeks after crossing Bonneville Dam and distribute to the tributaries where they spawn in August and September.

Over the last three decades, between 1,000 and 45,000 naturally produced spring/summer chinook salmon have returned to the Snake River basin annually (Table 1). While the lowest returns have largely been in the last 10 years, the highest return since 1979 was an estimated 38,881 in 2003, as the result of good outmigration conditions and productive ocean conditions.

The Snake River Spring/Summer-run Chinook Salmon ESU consists of approximately 39 local spawning populations (subpopulations) spread over a large geographic area (Lichatowich et al. 1993). The number of fish returning to Lower Granite Dam is therefore divided among these subpopulations. The relationships between these subpopulations, and particularly the degree to which individuals may intermix, is unknown. It is unlikely that all 39 are independent populations per the definition in McElhany et al. (2000), which requires that each be isolated such that the exchange of individuals between populations does not substantially affect population dynamics or extinction risk over a 100-year time frame. Seven of these populations, including fish in the Imnaha River, have been used as index stocks for the purpose of analyzing extinction risk and alternative actions that may be taken to meet survival and recovery requirements.

The projected return of Snake River spring/summer chinook salmon to the Imnaha River for 2004 is 3,630 fish (71 percent hatchery origin and 29 percent natural origin) (Table 2). The projected escapement (after hatchery broodstock collection, adult outplanting, and proposed fisheries) of 926 natural-origin spring/summer chinook salmon in 2004 is the 4th consecutive year of natural-origin returns greater than 1,000, and the 5th largest return in the last 20 years (Table 3; NPT 2004).

Table 1. Estimates of natural-origin Snake River spring and summer chinook salmon at Lower Granite Dam, 1979-2004 (Speaks 2000; NPT 2004), compared to the aggregated interim abundance targets for natural-origin Snake River spring/summer chinook salmon passing Lower Granite Dam (Lohn 2002).

Year	Spring Chinook	Summer Chinook	Total
1979	2,573	2,712	5,285
1980	3,478	2,688	6,166
1981	7,941	3,326	11,267
1982	7,117	3,529	10,646
1983	6,181	3,233	9,414
1984	3,199	4,200	7,399
1985	5,245	3,196	8,441
1986	6,895	3,934	10,829
1987	7,883	2,414	10,297
1988	8,581	2,263	10,844
1989	3,029	2,350	5,379
1990	3,216	3,378	6,594
1991	2,206	2,814	5,020
1992	11,285	1,148	12,433
1993	6,008	3,959	9,967
1994	1,416	305	1,721
1995	745	371	1,116
1996	1,358	2,129	3,487
1997	1,434	6,458	7,892
1998	5,055	3,371	8,426
1999	1,433	1,843	3,276
2000	3,029	2,299	5,328
2001	16,477	2,400	18,877
2002	24,300	4,800	34,125
2003	not available	not available	38,881
2004 ¹			21,510
Interim Abundance Target			40,900

¹ *preseason estimate, adjusted as of May 10, 2004, to reflect inseason updates of Columbia River returns*

Table 2. Projected returns of spring/summer chinook salmon to the Imnaha River in 2004 (based on information in ODFW (2004), updated May 18, 2004, to reflect adjustments to run projections).

	Number of fish	Proportion of return
Natural origin	1,048	28.87%
Hatchery origin	2,582	71.13%
Total	3,630	100.00%

Table 3. Estimated annual return of naturally-produced spring/summer chinook salmon to the Imnaha River 1957-2002 (from ODFW 2002), and the 2004 projected return.

Year	Estimated Return	Year	Estimated Return
1957	4,391	1981*	307
1958	1,548	1982	1,234
1959	874	1983	926
1960	2,070	1984	1,142
1961	1,280	1985	1,573
1962	1,382	1986	788
1963	755	1987	484
1964	1,380	1988	609
1965	1,048	1989	297
1966	1,261	1990	199
1967	1,203	1991	198
1968	1,420	1992	205
1969	1,683	1993	430
1970	976	1994	118
1971	2,049	1995	204
1972	1,884	1996	266
1973	3,061	1997	129
1974	1,529	1998	255
1975	823	1999	287
1976	701	2000	647
1977	871	2001	2,465
1978	2,291	2002	1,190
1979*	192	2003	1,735
1980*	125	2004**	1,048

* Estimates prior to 1982 are based on redd counts above the weir and are not expanded for those fish spawning below the weir location. Data sources: Parker (1997) and data from ODFW files, LaGrande office.

** Preseason estimate, adjusted based on mainstem runsize projection update (J. Oatman, NPT, pers. comm., May 18, 2004)

Although numerical goals for viability determinations or for ESA recovery purposes have not been established for the Imnaha River population of spring chinook salmon, a number of escapement objectives have been presented:

- NMFS' 1995 Proposed Recovery Plan for Snake River Salmon (NMFS 1995) suggested numerical recovery escapement goals for the Snake River Spring/Summer-run Chinook Salmon ESU as an 8-year geometric mean equal to 60 percent of the 1962-67 average Ice Harbor Dam escapement or 31,400 adult spring/summer chinook for the entire Snake River basin. The average escapement to the Imnaha River between 1962 and 1967 was approximately 1,172 fish (ODFW 2004). The pre-1970 average redd counts for the Imnaha River, Big Sheep Creek, and Lick Creek trend areas was 321 redds (NMFS 1995). Applying the 60 percent factor from the proposed recovery plan would suggest an interim recovery level of approximately 700 naturally produced spawners, or a redd count of 193 in the index areas.
- The Columbia River Treaty Tribes' Tribal Recovery Plan (Wy-Kan-Ush-Mi Wa-Kish-Wit) (CRITFC 1995) proposes a total adult return goal of 5,740 fish, of which 3,800 are for natural production and 700 for harvest.
- Subbasin planning in 1990 produced a goal for the Imnaha subbasin of 5,770 total adult chinook salmon (3,820 for natural spawning, 1,240 for hatchery production, and 700 for harvest (NPT et al. 1990).
- In April 2002, NMFS published "Interim Abundance and Productivity Targets for Interior Columbia Basin Salmon and Steelhead Listed under the Endangered Species Act," which proposed an escapement level of 2,500 fish for the Imnaha River subbasin (Lohn 2002).

Until recovery planning efforts currently underway provide more refined assessments of abundance objectives, the escapement level of 2,500 will be used to assess progress toward recovery of spring/summer chinook salmon in the Imnaha River.

3.3.2 Snake River Fall Chinook Salmon

Snake River fall chinook salmon (*Oncorhynchus tshawytscha*) were listed as threatened on April 22, 1992 (57 FR 14653). This ESU includes all natural populations of fall-run chinook salmon in the mainstem Snake River and in the Tucannon, Grande Ronde, Imnaha, Salmon, and Clearwater River subbasins. Snake River fall chinook salmon enter the Snake River in September and October, and spawn in October through December. There will be no Snake River fall chinook salmon present in the action area during the proposed spring/summer chinook salmon fishery.

3.3.3 Snake River Sockeye Salmon

Snake River sockeye salmon (*Oncorhynchus nerka*) were listed as endangered on November 20, 1991 (56 FR 58619). This population remains only in Redfish Lake, at the headwaters of the Salmon River and in a captive broodstock program designed to restore natural spawning populations (Flagg and McCauley 1996). It is unlikely that any sockeye will occur in the Imnaha River during the proposed spring/summer chinook salmon fishery period.

3.3.4 Snake River Steelhead

Snake River Basin steelhead (*Oncorhynchus mykiss*) were listed as threatened on August 18, 1997 (62 FR 43937). This inland steelhead ESU occupies the Snake River Basin of southeast Washington, northeast Oregon, and Idaho (Busby et al. 1996).

Summer steelhead enter the Columbia River from March through October, with most of the run entering from late June through mid-September. The upriver steelhead run has historically been separated into A and B groups based on when the fish pass Bonneville Dam. Group A steelhead include fish that pass Bonneville Dam from late June through August 25 on their way to tributaries throughout the Columbia and Snake River Basins. Group B steelhead return to the Clearwater and Salmon Rivers in Idaho and pass Bonneville Dam from August 26 through October. Group B steelhead are generally larger than group A steelhead.

Upstream of Bonneville Dam, where groups mix as fish seek temporary refuge in cooler tributaries, Group A and B steelhead cannot be distinguished based on run timing. Steelhead counts at dams above Bonneville surge as mainstem water temperature declines in the fall. Counts peak at John Day, McNary, and the Snake River Dams in September and October. During years of above average September-October flows and lower temperatures, steelhead move readily past lower Snake River Dams during the fall counting period (June-December) and fewer fish are delayed until the spring count period (March-May). Snake River steelhead experience higher Bonneville-to-Lower Granite Dam survival rates in run years with lower spring count percentages.

It is unlikely that any pre-spawning steelhead adults will be passing through the fishery area at the time of the proposed fisheries. Steelhead spawn in the Imnaha River and its tributaries starting in March and continuing through May in some of the cooler tributaries at higher elevations. Any spawning steelhead should be upstream from the waters that are open to chinook salmon harvest during May. However, it is likely that some number of steelhead kelts (adults that have completed spawning) will be present in the proposed chinook salmon fishing areas during at least the early portion of the proposed open season. While most species of *Oncorhynchus* are semelparous (dying after spawning), steelhead are capable of spawning more than once (iteroparous). Across the full range of steelhead, the frequency of multiple spawning is variable. In the Columbia River basin, between 89 and 97 percent of spawners in the lower river have not spawned previously. The incidence of repeat spawning in the Imnaha River, which is

some 600 miles from the ocean and upstream of eight large hydroelectric dams, is so low as to be virtually undetectable.

3.4 Other Fish Species Listed Under the ESA

Bull trout (*Salvelinus confluentus*) could be present in the areas where the fisheries are proposed to occur. The Columbia River population segment of bull trout was listed as threatened by the U.S. Fish and Wildlife Service (June 10, 1998, 63 FR 31647). Bull trout populations are known to exhibit four distinct life history forms: resident, fluvial, adfluvial, and anadromous. Resident bull trout spend their entire life cycle in the same (or nearby) streams in which they were hatched. Fluvial and adfluvial populations spawn in tributary streams where the young rear from 1 to 4 years before migrating to either a lake (adfluvial) system or a river (fluvial) system, where they grow to maturity. Anadromous fish spawn in tributary streams, with major growth and maturation occurring in salt water.

Migratory bull trout have been restricted or eliminated due to stream habitat alterations, including seasonal or permanent obstructions, detrimental changes in water quality, increased temperatures, and the alteration of natural stream flow patterns. The disruption of migratory corridors, if severe enough, could result in the loss of migratory life history types and isolate resident forms from interacting with the population as a whole. The Columbia River population segment encompasses a vast geographic area including portions of Idaho, Montana, Oregon, Washington, and British Columbia. Bull trout are present, and locally common, in most of the habitat occupied by anadromous fish in the Snake River basin, including the Imnaha River subbasin.

According to estimates by ODFW (ODFW 2004a), an estimated 186, 321, and 100 bull trout were caught and released in the Imnaha River subbasin during the 2001, 2002, and 2003 chinook fishing seasons, respectively. It is not known how many of these fish might have died as a result of handling stress or injury, though that number is likely small.

3.5 Non-listed Fish Species

Approximately 60 other species of fish live in the Snake River and tributaries. About half are native species primarily of the families Salmonidae, Catostomidae, Cyprinidae, and Cottidae. White sturgeon, *Acipenser transmontanus*, occur in the main Snake and Salmon Rivers. The Snake River basin also supports at least 25 introduced species primarily representing *Percidae*, *Centrarchidae*, and *Ictaluridae* (Simpson and Wallace 1978). The most common resident species likely to occur in waters occupied by anadromous fish are native populations of mountain whitefish (*Prosopium williamsoni*), west slope cutthroat trout (*Oncorhynchus clarki*), rainbow trout (resident *O. mykiss*), dace (*Rhinichthys* spp.), and sculpin (*Cottus* spp.)

Introduced brook trout (*Salvelinus fontinalis*) are abundant in some tributaries where they are considered to be a risk to native fish species. Brook trout (*Salvelinus fontinalis*) are often

regarded as a risk to native trout and salmon populations in western streams because of competition and predation (Griffith 1988). The species is prolific and predaceous and may completely replace native trout species in streams (Behnke 1992). Brook trout are also known to hybridize with bull trout to the detriment of the listed species (Simpson and Wallace 1978). Brook trout were widely introduced in the western United States by state and Federal resource managers for many years because they are capable of supporting popular recreational fisheries and are adaptable to a wide range of stream and lake habitats (Dill and Cordone 1997).

Northern pikeminnow (*Ptychocheilus oregonensis*) have been identified as the predominant fish predator affecting survival of juvenile salmonids migrating downstream in the Snake and Columbia Rivers (BPA 1991). As a result, several attempts to reduce the numbers of northern pikeminnow in the migration corridor have been undertaken, including a system of paying bounties to recreational anglers for the carcasses of pikeminnow over 11 inches in length caught in the migration corridor (BPA 1991). This program has successfully reduced the number of larger, predaceous pikeminnow in certain areas and is believed to have improved the survival of juvenile salmonids (Beamesderfer et al. 1996). Northern pikeminnow continue to be abundant throughout the recorded range of the species (Beamesderfer et al. 1996).

3.6 Terrestrial Organisms

The diverse habitats in the Imnaha River subbasin support a spectrum of terrestrial organisms including neotropical birds, small mammals, fur bearers, and larger mammals including whitetail and mule deer, elk, and black bears. Approximately 381 wildlife species occupy the Hells Canyon National Recreation Area (fish – 42, salamanders – 3, frogs/toads – 9, lizards – 9, snakes – 10, birds – 239, mammals – 69), and most of these species are likely to occur within the Imnaha River watershed (USFS 1998).

3.7 Social and Economic Resources

Ceremonial and subsistence fishing for salmon was a central aspect of the culture and economic life of native American Indians in the Columbia River basin for more than 10,000 years before the arrival of the first European settlers. The Imnaha River subbasin lies within the lands ceded to the United States by the Nez Perce Tribe in a treaty with the United States in 1855. The treaties of 1855 and 1863 reserved fishing rights to the Tribe in the usual and accustomed places of fishing, including the Imnaha River and tributaries. However, as salmon runs have declined, the Tribal fishery managers have recommended restricted or closed fisheries to protect the remaining resource.

The early history of non-Indian use of fishery resources in the Columbia River Basin is described in Craig and Hacker (1940). Early traders, trappers, and settlers began arriving around 1800. These early immigrants began taking salmon for their own use and consumption, often trading for fish with the Indians. Early attempts at commercial taking of salmon began in 1829, with salmon harvest as a commercial industry beginning in earnest by the mid-1880s. The first

cannery on the Columbia River produced its first pack of canned salmon in 1866. By 1887, the number of canneries in the basin peaked at 39 (Craig and Hacker 1940). Salting, mild-curing, and other methods of salmon preparation were also taking place, and Columbia River salmon were becoming well-known internationally. The total production of canned, mild-cured, and frozen salmon and steelhead in the Columbia River Basin rose from 272,000 pounds in 1886 to annual productions between 20 and 50 million pounds from 1874 through 1936 (Craig and Hacker 1940).

Commercial fishing had a very brief life in the Snake River drainage as salmon resources were exploited to feed miners and emigrants before 1900 (Evermann 1896). Rapid depletion of stocks by downriver fisheries and habitat loss ended commercial fishing opportunity in the early part of the 20th century.

There has been recreational fishing in the Columbia River and its tributaries since the late 1800s. After the brief commercial fishery in the Snake River, non-tribal subsistence fishing rapidly evolved into recreational fishing. When Snake River Basin anadromous fish populations were abundant and productive, there were no apparent conflicts between the conduct of recreational fisheries and the health of anadromous populations. Runs of salmon and steelhead remained healthy in the 1950s and 1960s, and supported recreational harvest rates of 30-50 percent. However, as human populations increased in the Snake River basin, fishing pressure increased and the productivity of anadromous populations began to decrease, restrictions on recreational fishing were instituted.

Because harvest due to recreational fishing is an obvious and visible cause of fish mortality, it is often the first potential factor of decline subject to restriction. Shorter fishing seasons, restricted harvest limits, and closed seasons were implemented to reduce the impacts of recreational fishing on wild anadromous fish, starting in the 1950s and 1960s as spawning runs began to decline. Treaty tribal fisheries in tributary areas have also been restricted or closed as salmon populations have declined and have become listed under the ESA. Harvest rates are managed at conservative levels until improvements in other sectors of the environment are able to take effect.

In addition to harvest, Snake River spring/summer chinook populations are also affected by habitat conditions, migration conditions, and survival in the ocean. A combination of favorable circumstances in these areas, and an artificial propagation program designed to supplement the naturally-produced population, has generated an abundance of salmon in 2004, which can provide for spawning escapement and brood stock needs and provide controlled fishing opportunity.

Recreational activities within the Imnaha watershed, in addition to fishing, include hunting, hiking and camping, firewood, berry and mushroom gathering, trail riding on horses, mountain bike and off-road vehicle use, and non-consumptive observation of wildlife and scenery.

In 1996, 483,459 anglers spent over 4,411,000 angler days fishing in Idaho waters (Maharaj and Carpenter 1997). Angler expenditures of about \$280,000,000 generated an economic output of over \$461,682,000 and \$116,552,000 in worker earnings. These wages and salaries translate into 6,884 full-time equivalent jobs (Maharaj and Carpenter 1997). Recreational fisheries in the Oregon portion of the Snake River basin would be expected to have similar economic value. The average in the Maharaj report is about \$63 per angler/day in direct expenditures, \$105 per day in economic output, and \$27 per day in worker earnings. The recreational salmon fishery on the Imnaha River in 2001, 2002, and 2003 consisted of about 750 angler/days to harvest between 100 and 200 fish (ODFW 2004a). That is similar to the proposed fishery in 2004. While 750 angler days only represents a direct expenditure of \$47,250, \$78,750 in economic output, or \$20,250 in worker earnings, that could be a substantial contribution to economic activity for a small isolated community like the town of Imnaha which is near to where most of the fishing occurs. In Wallowa County, a rural county (population 7,025 in 2002), and where fishing and tourism is an important source of income, the per capita income in 1999 was \$17,276 and 14.0 percent of the residents lived below poverty levels (www.fedstats.gov, accessed May 3, 2004).

Tribal fishers are generally fewer in number and more effective than recreational anglers, and therefore spend fewer days fishing. However, although the economic contribution of the tribal fishery is likely smaller than the non-tribal recreational fishery, fuel, food, and equipment purchases occur at local retail vendors.

Recreational anglers buy fishing licenses (\$24.75 per year for Oregon residents, \$12.00 for one day (with certain discounts available for two-four day licenses) or \$61.50 per year for non-residents) and salmon permits (\$21.50 per year), which support fishery management and law enforcement activities. Anglers also pay a Federal excise tax on fishing gear, which is returned to the states to support fisheries research, development, and public information actions (ODFW 2004a).

3.8 Environmental Justice

Executive Order 12898 (59 FR 7629) states that Federal agencies shall identify and address, as appropriate "...disproportionately high and adverse human health or environmental effects of [their] programs, policies and activities on minority populations and low-income populations...." While there are many economic, social, and cultural elements that influence the viability and location of such populations and their communities, certainly the development, implementation and enforcement of environmental laws, regulations and policies can have impacts. Therefore, Federal agencies, including NMFS, must ensure fair treatment, equal protection and meaningful involvement for minority populations and low-income populations as they develop and apply the laws under their jurisdiction.

The U.S. Fish and Wildlife Service conducted a national survey of fishing, hunting, and wildlife related recreation in 2001 (USDI and USDC 2003). The income and race characteristics of

Oregon residents who fished in 2001 are in Table 4 and Figure 2. No information was available showing the income levels of resident anglers with regard to race or ethnicity.

In the proposed action area, there are minority and low income populations that this Executive Order could apply to, including Hispanics, Asians, and Native Americans. The U. S. Census Bureau in the 2000 census (U.S. Census Bureau 2004) reported the following race composition of Wallowa County, Oregon residents:

- 95.7% White
- 1.7% Hispanic
- 0.2% Asian
- 1.7% Native American
- 0.2% Black

The proposed action is to allow fishing to occur on chinook salmon. Every person would have equal opportunity to participate in the new fishery. The costs of being able to fish for salmon legally in Oregon in 2004 are shown in Table 4.

Table 4. Percentage of Oregon resident anglers by ethnicity and race in 2001 (USDI and USDC 2003).

Characteristic	General Population in Oregon (%)	Resident Anglers (%)
Ethnicity		
Hispanic	6	4*
Non-hispanic	94	96
Race		
White	95	96
Black	2*	**
All others	4	**

* estimated based on small sample size
 ** sample size too small to report data reliably

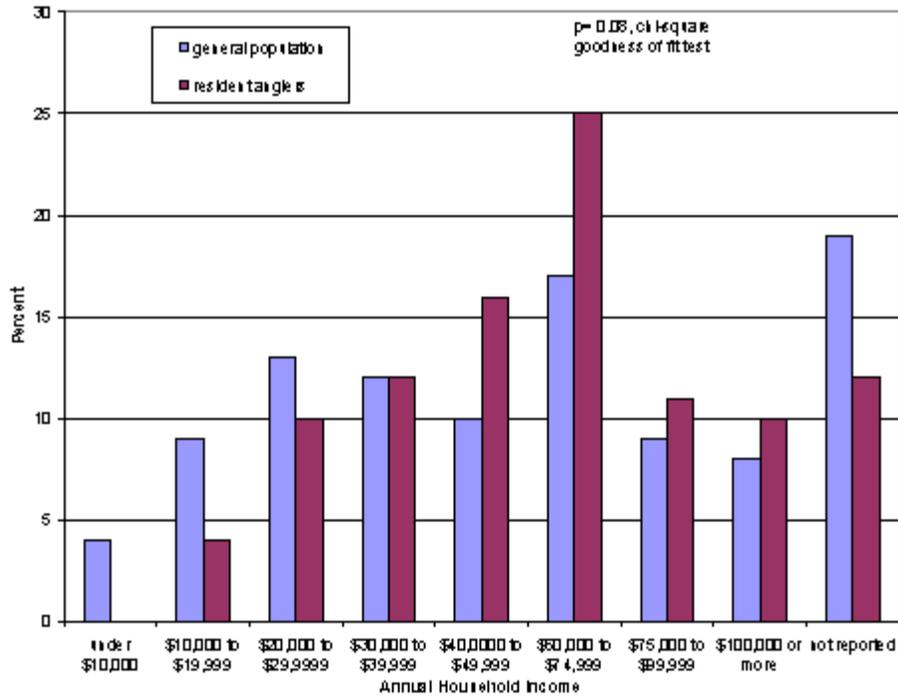


Figure 2. Annual household income of Oregon residents, 2001, in comparison with the general population of Oregon residents (USDI and USDC 2003).

Table 5. Cost of fishing licenses and tags for Oregon residents in 2004.

Age Class	Cost of License (\$)	Cost of Salmon Tag (\$)	Total Cost to Participate in Proposed Fishery (\$)
Adult (18 & over) annual license	24.75	21.50	46.25
Juvenile (14-17) annual license	6.75	6.50	13.25
Child (under 14) annual license	Free	6.50	6.50
1-day fishing license	12.00	Included in license	12.00
7-day fishing license	43.75	Included in license	43.75

The maximum cost to participate in this fishery would be incurred if a person bought a license and salmon tag for \$46.25, which would allow the person to fish in all of Oregon's streams and lakes all year long. The costs of fishing gear and tackle exceed the costs of the fishing license.

3.9 Tribal Trust Responsibilities and Treaty Rights

The section 4(d) rule regarding tribal resource management plans, published July 10, 2000, declares: "The United States has a unique relationship with tribal governments as set forth in the Constitution, treaties, statutes, and Executive orders." In keeping with this unique relationship and with the mandates of the Presidential Memorandum on Government to Government relations With Native American Tribal Governments (May 4, 1994, 59 FR 22951) and with Executive Order 13084, NMFS developed and published the referenced 4(d) rule. Recognizing the unique status of the Treaty Tribes, the Federal Government stated, in the explanatory material accompanying the rule, that the appropriate expression of its trust obligation is a commitment to harmonize its many statutory responsibilities with the tribal exercise of tribal sovereignty, tribal rights, and tribal self determination.

With regard to fisheries and fish management, NMFS declared, in the Tribal 4(d) rule, that additional Federal protections are not needed for activities carried out under those Tribal plans deemed by the Secretary to not appreciably reduce the likelihood of survival and recovery of a listed ESU.

4.0 Environmental Consequences

This section of the assessment evaluates the potential effects of the alternatives (including the proposed action) on the biological, physical, and human environments. The Secretary's determination as to whether the TRMP does or does not appreciably reduce the likelihood of survival and recovery of the listed species could affect a variety of natural and human resources. These effects would primarily occur as a result of implementation of activities described in the TRMP.

4.1 Alternative 1 (No Action) – Issue No Determination that Tribal Plan Satisfies Tribal 4(d) Rule

If the NMFS determines that the TRMP does not satisfy the terms of the tribal 4(d) Rule, then no limitation of application of take prohibitions would be available for fishery activities described in the TRMP. Only those activities authorized under the existing section 10 (a)(1)(A) permit 1128 would continue. Permit 1128 authorizes direct and incidental take of listed chinook salmon in actions related to the operation of the artificial propagation program, including collection of hatchery brood stock, releasing fish above the weir for natural spawning, and relocation of adult salmon into suitable, but under-used, habitat within the Imnaha River subbasin to supplement natural spawning. Permit 1128 allows for removal of salmon that are excess to conservation needs at the weir and distribution to the Tribe for ceremonial and subsistence purposes or to State

food banks for human consumption. Tribal and recreational salmon fisheries would not occur in the Imnaha River subbasin in 2004. Recreational fishing for trout would continue under the State's general fishing regulations.

4.1.1 Effects on Riparian Habitat

Because the facilities and access points that would be used by chinook salmon fishers are already in place, and because other recreational activities are likely to occur, riparian and stream habitat would be adversely impacted to some degree even in the absence of the chinook salmon fisheries. Fishers seeking trout and other resident fish species will have temporary and low level effects on the riparian area, as will camping and non-consumptive observation of wildlife and scenery.

4.1.2 Effects on Water Quality

The absence of salmon fisheries in the action area would not have a measurable effect on water quality, including temperature. As with riparian habitat, water quality will continue to be affected by other activities in the subbasin, including recreational and commercial activities not associated with chinook salmon fisheries. Approximately 728 chinook salmon that would have been taken in fisheries might instead die in the stream, before or after spawning, and so would contribute additional nutrients to the system, but this number of fish is a relatively small proportion of the total return. Some of these additional fish would reach the Gumboot weir and be removed for Tribal or food bank use and would not contribute nutrients to the system.

4.1.3 Effects on Anadromous Fish Listed Under the ESA

4.1.3.1 *Snake River Spring/Summer Chinook Salmon*

The inability to conduct the fisheries contemplated in the TRMP would result in no more than a small increase in escapements for these populations and no measurable benefit to the conservation of ESA-listed salmon and steelhead. The preseason expectation is for 1,048 naturally produced fish and 2,582 hatchery fish to return to the Imnaha River in 2004 (Table 2). Based on the TRMP and consistent with the sliding scale management strategy developed by the *U.S. v. Oregon* parties, approximately 724 naturally produced and 1,387 hatchery adult spring/summer chinook salmon would be expected to reach the Gumboot weir; after collection for broodstock and for outplanting to other streams, 654 naturally produced salmon and a similar number of hatchery fish would be released to spawn upstream of the weir. In addition, approximately 272 naturally produced and 521 hatchery spring/summer chinook salmon would be expected to spawn in the Imnaha River and tributaries downstream of the weir. This is a total of 926 naturally produced fish that would be expected to spawn naturally in the Imnaha River system, or approximately 37 percent of the interim abundance target of 2,500 fish.

Upstream of the weir, 58 percent of the anticipated spring/summer chinook salmon spawners would be of hatchery origin, while below the weir about 66 percent would be hatchery-origin. Removing fish that are in excess of program needs and natural population targets is a key

component of the artificial propagation management program. Escapements past the weir can be controlled through removal of fish at the weir, but fish returning to areas below the weir can only be removed through fisheries. Under the No Action Alternative, proportions of hatchery-origin fish in the natural spawning population would likely exceed the objectives of the co-managers' management strategy for Snake River spring/summer chinook salmon in the Imnaha River subbasin.

The proposed fishery would result in the harvest of approximately 52 adult and jack naturally produced and nearly 675 hatchery-origin spring/summer chinook salmon.

4.1.3.2 *Snake River Fall Chinook Salmon*

There would be no effect on fall chinook salmon as a result of not conducting the proposed harvest because fall chinook salmon are not present in the Imnaha River during the time of the proposed activities.

4.1.3.3 *Snake River Sockeye Salmon*

There would be no effect on sockeye salmon as a result of not conducting the proposed harvest because sockeye salmon do not occur in the Imnaha River.

4.1.3.4 *Snake River Steelhead*

There would be no effect on steelhead as a result of not conducting the proposed harvest because steelhead are not present in the area of the proposed fisheries when the fisheries would occur. The small number of kelts that might have been harvested (if any) would instead be free to outmigrate. However, since that number is very small, and the likelihood that any kelts would return to spawn again is also small, the likelihood that any would return to contribute to the population's abundance is negligible.

4.1.4 Effects on Other Fish Species Listed Under the ESA

Not implementing the proposed fisheries would have a negligible role in reducing adverse impacts on bull trout. Some bull trout would continue to be caught-and-released by anglers fishing under the general trout regulations in Oregon. No effect on bull trout migration or distribution is expected. Other ESA-listed fish species would not be present in the area during the proposed fisheries, and so would not be affected by the absence of the fisheries.

4.1.5 Effects on Non-listed Fish Species

Fishing for resident species including trout would continue under the state's general fishing regulations (2004b). The general trout season is open all year and the daily trout limit is 6 with a 20 minimum length. These regulations would remain in effects whatever the determination on

the proposed action, as they are not part of the TRMP. Angler access to much of the Imnaha River and its tributaries is restricted by rugged terrain and private land. While a popular fishery for resident trout exists in the Imnaha River drainage, most of the harvest is localized at campgrounds and access areas and the fishing regulations have been developed to manage harvest levels at a rate expected to have no affect at the population level. Only a very small number of other resident fish species are present in the Imnaha and are not thought to be targeted or caught in recreational fisheries.

4.1.6 Effects on Terrestrial Organisms

As discussed above, the absence of salmon fisheries may have a small beneficial affect on the number of salmon carcasses available for consumption by terrestrial organisms and for contributing nutrients to the aquatic and terrestrial ecosystems of the Imnaha River subbasin. Terrestrial organisms would continue to be adversely impacted as a result of anticipated resident fisheries, camping, and observation of wildlife and scenery, to only a somewhat smaller degree than if salmon fisheries occurred.

4.1.7 Effects on Social and Economic Resources

While the level of fisheries proposed in the TRMP are relatively small in the context of similar activities in the region, they have meaning to the Tribal and non-Tribal communities in the local area. Not issuing a determination providing for implementation of the TRMP would adversely affect the cultural and religious environment of members the Nez Perce Tribe who desire to exercise treaty fishing rights in the Imnaha River subbasin. The Tribal fishers who have a tradition of fishing the Imnaha River in conjunction with family traditions or Tribal celebrations do not have an equivalent alternative. Although the harvest may be small, it has cultural value.

In addition, this alternative would result in economic losses to local communities and diminished quality of life for local fishermen near the Imnaha River, due to the curtailment of Tribal fisheries and non-Tribal recreational fisheries. Local area businesses would be impacted to some extent through loss of customers. The community of Imnaha is isolated, and there is no other fishery equivalent to the salmon fishery in its attraction for anglers and new business. There are no similar fisheries for recreational anglers within more than 100 miles and, like the Tribal fishers who fish the Imnaha River in conjunction with family traditions or Tribal celebrations, non-Tribal anglers in Imnaha and other Northeast Oregon communities do not have an easily available alternative, a circumstance that makes the limited angling opportunity and small harvest important disproportionate to the number of fish harvested.

Recreational fishery constraints would result in reduced state revenues from license sales and loss of recreational fishermen. Some of the 750 angler/days of effort that occurred in 2001, 2002, and 2003 might not be lost under the No Action alternative, as fishers might shift to another species, but it is likely that a majority of that effort would not occur. In that case, again assuming 2001-2002 average figures, most or nearly all of the nearly \$150,000 in direct and

associated revenue would not be generated if the chinook salmon fisheries did not occur. In addition, it is likely that fewer state fishing licenses would be purchased, although the reduction would be only a small proportion of all state licenses. At this time, most of the public information and law enforcement activity that protects listed species and keeps the public aware of the status of listed species is funded by the state, using fishing license fee revenues. Most of the public opinion that supports restoration of anadromous species and protection of critical habitat is generated by anglers and recreational fishing organizations. Loss of fishermen and their expenditure for fishing would have adverse impacts on retail and recreation industries, including sporting goods retailers, food and lodging providers, and fishing guide services, although the extent to which these industries would be affected within the context of the state and regional economies is not large.

The No Action alternative would be contrary to federal policy direction to promote compatibility and reduce conflict between administration of the ESA and recreational fisheries (June 3, 1996, 61 FR 27978). Given the analysis above and by NMFS (2004), the proposed fisheries are not expected to have a large impact on the number of listed fish returning to the Imnaha River in 2004. Therefore, this alternative is not biologically necessary or advisable. This alternative would result in limiting access to harvestable surpluses of hatchery-produced salmon that are returning to specific artificial propagation facilities and release sites. The goals of the scientific research and enhancement project that has developed the artificial propagation program and supplementation of natural spawning in the Imnaha River subbasin include the restoration of traditional treaty fisheries and recreational fisheries. The No Action alternative would deny the validity of the scientific resource management techniques that have been applied to increase fishing opportunity. The potential social and economic benefits of expanded fishing opportunity would be denied to local cultures and economies that depend upon fishing opportunities in the proposed action area. While the monetary amount is unclear, monetary and aesthetic benefits would be lost by the economy and culture of small rural communities in the Imnaha River basin under the No Action alternative.

4.1.8 Environmental Justice

Executive Order 12898 (February 11, 1994, 59 FR 7629) directs Federal agencies to identify and address, as appropriate, any disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. The No Action alternative would disproportionately affect the depressed economies of small rural communities in areas suffering from high unemployment due to depressed timber, mining, and agricultural-based economies. Larger communities, where the economy is based on industry and commerce, would not be as likely to suffer as small rural communities that depend on resource utilization and tourism. Adverse effects of fishing restrictions would be greatest on poor, rural communities compared to wealthier, urban communities.

4.1.9 Tribal Trust Responsibilities and Treaty Rights

The No Action alternative would have the effect of not allowing a Tribal ceremonial and subsistence salmon fishery and would not be consistent with the Federal Government's Treaty Trust Responsibility and the Tribe's treaty rights as described in subsections 1.1 and 3.4. In the absence of compelling reasons to deny the program under consideration, particularly given the tribal role in the implementation of the conservation program in tribally-important lands, not providing for the implementation of the TRMP could have negative consequences for management of treaty trust resources.

4.2 Alternative 2 (Proposed Action) – Issue Determination that the Tribal Plan Satisfies Tribal 4(d) Rule

4.2.1 Effects on Riparian Habitat

The effect of the proposed action on the riparian area of the action area would not be markedly different from the No Action alternative. Impact of the activities described by the TRMP on the habitat of the ESA-listed species is expected to be restricted to minor and temporary disturbance of riparian vegetation by fishers walking along the river. These small effects would be in the context of a larger suite of adverse effects occurring whether or not fisheries take place (e.g., grazing or stream channelization). The fishing activities will occur in the main stem of the Imnaha River along the banks. Access to the riparian areas will be at existing access sites, so they are not expected to contribute to bank instability or reduction of shade. Most fishing activity will take place downstream from the major spawning areas. Primary spawning and rearing habitat of the ESA-listed stocks lie in the upper river and tributary subbasins that are not open to fishing under either Tribal or State regulations.

4.2.2 Effects on Water Quality

Under the Proposed Action, adverse effects on water quality would be slightly higher than under the No Action alternative. Water quality could temporarily be adversely affected by the activities of anglers camping along streams. Some additional litter and trash is likely to be deposited in streams by anglers. Water quality effects are expected to be small, temporary, and localized. The over-all and long-term adverse effects on water quality resulting from the Proposed Action are expected to be negligible. Because of this, no adverse effects on streams listed or potentially subject to listing under section 303(d) are expected. Because the number of natural spawners that might be taken in the fisheries is small, little or no adverse impact is expected on the availability of nutrients from carcasses.

4.2.3 Effects on Anadromous Fish Listed under the ESA

4.2.3.1 Snake River spring/summer chinook salmon

Unlike conditions under the No Action alternative, the expected adverse impacts on threatened Snake River spring/summer chinook salmon in the Imnaha River subbasin as a result of the fishery management actions proposed under the TRMP in 2004 would accrue directly from take in the fisheries, whether from kept catch or as incidental mortality resulting from catch and release.

The take levels are described in the TRMP (NPT 2004), and are summarized in Table 2. The anticipated level of adult escapement for 2004 is sufficient to meet natural spawner and hatchery broodstock goals as well as support limited harvest. Table 6 summarizes the allocation among spawning escapements, hatchery brood stock, and harvest proposed for 2004. Compared to the No Action alternative, a maximum of 52 natural-origin and 674 hatchery-origin spring/summer chinook salmon would be harvested from the Imnaha River in 2004 by the proposed fisheries under current return expectations. The projected escapement (after hatchery broodstock collection, adult outplanting, and planned fisheries) of 926 natural-origin spring/summer chinook salmon in 2004 would be the 4th consecutive year of natural-origin returns greater than 1,000, and the 5th largest return in the last 20 years (NPT 2004). The total estimated escapement of hatchery and naturally-produced salmon for natural spawning in 2004 would be 2,666 fish.

Table 6. Projected distribution of spring/summer chinook salmon returning to the Imnaha River in 2004 (includes jacks and adults) (NPT 2004).

Area	Natural	Hatchery	Total
To River Mouth	1,048	2,582	3,630
Harvest	52	674	726
Number of fish post harvest	996	1,908	2,904
To Weir (72.7% of post harvest return)	724	1,387	2,111
Hatchery Broodstock	70	160	230
Outplant to Big Sheep and Lick Cr.	0	307	307
Spawning Upstream of Weir ¹	654	920	1,574
Spawning Downstream of Weir (27.3% of post harvest return)	272	521	793
Total Natural Spawning (mainstem and tributaries), after harvest	926	1,740	2,666

¹ Two additional criteria from Table 2 are likely to reduce the number of hatchery-origin spawners above the weir: First, the proportion of hatchery-origin fish released above the weir is not to exceed 50% and, second, no more than 10% of the male salmon released above the weir may be hatchery-origin jacks. Excess jacks or adults may be added to the Big Sheep Creek release.

In addition to evaluating whether escapement and broodstock objectives would be met if fisheries were implemented, it is pertinent to consider the effect of hatchery-origin fish in natural spawning areas, and how that proportion would be managed. The management agreement for brood stock and natural spawning escapements calls for no more than a 1:1 ratio of natural to hatchery-produced fish spawning in the area above the Imnaha River weir. The TRMP estimates that after removal of 52 naturally produced and 674 hatchery-produced fish in the fishery, collection of 70 naturally produced and 160 hatchery-produced fish for continuing hatchery production, and relocation of 307 hatchery fish to Big Sheep Creek and Lick Creek, there would be 654 naturally produced fish and 920 hatchery produced fish available for release above the weir. The proposed action contemplates that a fishery opportunity below the weir, carefully implemented to minimize adverse effects on non-target (natural) fish is a reasonable alternative for management of hatchery fish proportions on spawning grounds upstream of the weir, as well as allowing for access to hatchery fish not reaching the weir.

4.2.3.2 *Snake River Fall Chinook Salmon*

No Snake River fall chinook salmon are expected to occur in the Imnaha River during the time that fisheries are proposed for spring/summer chinook salmon. Therefore, there would be no effects of the fishery on this listed species, and effects under this alternative would be no different than under the No Action alternative.

4.2.3.3 *Snake River Sockeye Salmon*

No Snake River sockeye salmon are expected to occur in the Imnaha River during the time that fisheries are proposed for spring/summer chinook salmon. Therefore, there would be no effects of the fishery on this listed species, and effects under this alternative would be no different than under the No Action alternative.

4.2.3.4 *Snake River Basin Steelhead*

No adult steelhead spawners are likely to be affected by the proposed action. As described in section 3, above, steelhead spawning occurs high in the Imnaha River subbasin, upstream of the proposed fishery area, and spawners will have already passed upstream of the fisheries before the fisheries would start. Some post-spawning steelhead kelts could occur in the fishing area during at least the early part of the fishing season and could possibly be incidentally caught by fishers seeking salmon. Regulations for both the Tribal and state-operated fisheries prohibit retention of steelhead kelts. Steelhead kelts are not expected to be killed by fishing activities, but if some small number of kelts are caught and released, and a small proportion of those kelts die as a result, no measurable adverse effect on the population is expected. The number of kelts encountered would be small, the proportion dying as a result of catch and release would be even smaller, and the contribution of kelts to subsequent spawning is small or negligible. The effect of the proposed action would be essentially the same as under the No Action alternative.

4.2.4 Effects on Other Fish Species Listed Under the ESA

Impacts on threatened bull trout are expected to be negligible. A few more bull trout will be handled by salmon fishermen than under the No Action alternative. This species is likely to be present in the portion of the Imnaha River that is open to the fisheries considered under this EA. In reviewing the status of bull trout, the USFWS determined that the Tribal and State wildlife conservation and fishing regulations that protect bull trout as well as wild trout of other species and listed anadromous salmonids were adequately protective (June 10, 1998, 63 FR 31647). The activities described in the TRMP are consistent with the objective of ensuring minimal impact on bull trout. The catch and release of bull trout would be expected to be in the same range as 2001-2003, with no more than approximately 30 fish dying as a result of the proposed fisheries. This level of impact is not expected to adversely affect bull trout migration or distribution.

4.2.5 Effects on Non-listed Fish Species

Fisheries managed pursuant to the proposed TRMP are not expected to have effects on fish species other than the chinook salmon population that is the subject of all the management actions described. Other fish species may be caught in fisheries in the Imnaha River, but those fisheries are not included in the TRMP. The TRMP describes only those fisheries directed at harvest of chinook salmon, and the fishing methods and gear used are not likely to result in incidental catch of non-salmonid species. A few resident trout may be present and caught at the time of the fishery, but the state fishing regulations allow harvest of these species (up to 6 fish per day) and the fishery is not expected to affect these species due to the current regulations. Other fish species are not expected to be recruited by the gear used in the fishery. Effects of the Proposed Action on these other fish species would be no different than under the No Action alternative.

4.2.6 Effects on Terrestrial Organisms

Activities described in the proposed TRMP are not expected to have any effects on terrestrial organisms. No terrestrial organisms would be taken by efforts to harvest salmon. Conduct of the activities described by the TRMP are not likely to result in measurable effects on the terrestrial environment. Increases in streamside traffic, camping, and fishing effort associated with the proposed fisheries would be small, using existing facilities. The impacts on terrestrial organisms resulting from a few hundred additional visits by Tribal and recreational fishers to the river and riparian area are not expected to differ substantially from those under the No Action alternative, due to the background of other recreational activities and land use in the watershed.

4.2.7 Effects on Social and Economic Resources

The exercise of reserved treaty rights to fish is an important aspect of the historic, cultural, and religious environment of the tribes of the Pacific Northwest. Opportunities to fish and the availability of fish have been very limited in recent years because fish populations have declined

due to anthropogenic habitat modifications and natural environmental variability. The application of scientific resource management techniques to recovery of fish populations, including actions such as the artificial propagation program in place in the Imnaha River subbasin are essential to restoration of fish populations and fishing opportunities. The proposed fisheries would allow exercise of treaty rights not available under the No Action alternative.

Recreational fishing provides positive cultural and quality of life benefits to the non-tribal citizens of the rural Northwest, both as fishing opportunities and the non-consumptive enjoyment of wildlife resources. Recreational fishing also provides substantial income and important employment opportunities in remote, rural communities located in the Snake River basin. The proposed management actions described by the TRMP for 2004 are designed to provide fishing opportunities not possible under the No Action alternative, while still in a manner that does not appreciably reduce the likelihood that the listed anadromous salmon populations will continue to survive and recover.

Since 1978, harvest of chinook salmon by either Tribal or non-tribal fishermen has been allowed only for the past three years. For approximately 24 years, a generation of Tribal fishers was not able to exercise reserved treaty rights in the Imnaha River subbasin because there were very few fish and those few were allocated to natural spawning escapements and development of an artificial propagation brood stock in management actions designed to assist recovery and survival of the species. The State and Tribal co-managers initiated comprehensive conservation measures including complete closure of fisheries and development of the recovery broodstock 14 years before the species became listed under the ESA and came under Federal protection.

Similarly, a generation of non-tribal residents did not have the opportunity to fish and harvest salmon in the Imnaha River. Fishing, hunting, camping, and other outdoor pursuits are an integral part of the culture and lifestyle of residents of the rural northwestern United States. The ethical and cultural imperatives to hunt and fish and consume the harvest are still strong. The utilization of wild fish and game is also important in the economics of citizens where unemployment rates are high and traditional industries like logging and mining are in decline.

The fisheries proposed in the TRMP are small, contemplating the harvest of 2,666 fish more than under the No Action alternative. However, there are beneficial impacts on the human environment in terms of reestablished traditional Tribal fisheries in a place of historical and cultural importance to Tribal fishers. There are also benefits to the culture, lifestyle, and economy of non-tribal fishers and the residents of the Imnaha Basin. Because the fishery was closed for 24 years, it has been difficult to estimate the amount of angler effort or incidental camper and tourist participation that would be generated; however, after three years of limited open fishing opportunity, the level of participation and harvest is similar to the reported levels of the 1970s. It is likely that fishery effort may roughly approximate the 750 angler/days seen in 2001, 2002, and 2003, in which case approximately \$48,000 more than under the No Action alternative might be expected to be generated as direct revenues, and another nearly \$100,000 in revenue associated with the fisheries might accrue to the local economy. While the economic

benefit of these limited activities to local communities and industries would be small in terms of the regional economy, the additional expenditures of fishers as they pursue outdoor activities and utilize local services is an important source of new revenue into rural communities.

4.2.8 Environmental Justice

Executive Order 12898 (59 FR 7629) directs Federal agencies to identify and address, as appropriate, any disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. As under the No Action alternative, the Proposed Action alternative would not be expected to affect human health of any population located in the action area.

Under the Proposed Action alternative, increased fishing opportunities may result as compared to the No Action alternative. These fishing opportunities would be available to all population segments. Tribal harvest and subsistence fishing opportunities, and potential opportunities for low-income persons, could increase; these communities would not be disproportionately adversely affected compared to other communities.

4.2.9 Tribal Trust Responsibilities and Treaty Rights

The proposed action is consistent with the Federal government's treaty trust responsibility to the Nez Perce Tribe, given that conservation objectives would not require disallowing harvest opportunity. Implementation of the tribal fisheries proposed in the TRMP would be consistent with the reserved fishing rights provided by the treaties, the intent of the Tribal 4(d) Rule, Secretarial Order 3206 on Treaty Rights, and the continuing jurisdiction of Federal court under *U.S. v. Oregon*.

4.2.10 Cumulative Impacts

Cumulative impacts of NMFS' current proposed action under the Tribal 4(d) Rule would be minor, if at all measurable. Other Federal, tribal, and State actions are expected to occur within the Snake River basin and in the migration corridor between the Snake River and the Pacific Ocean that would affect the fish populations considered in the Proposed Action. State and tribal fisheries occur in Idaho, Oregon, and Washington portions of the Snake River basin and in the mainstem Columbia River. Land management and water use decisions that affect these populations are made inside and outside the Snake River basin. There are overarching concerns and legal mandates for the recovery of listed salmon and steelhead populations in the Columbia River basin, at the same time there are social and cultural needs for sustainable fisheries and sustainable economic use of resources.

There are numerous initiatives by State, Federal, tribal, and private entities designed to restore salmon and steelhead populations. Federal actions for salmon recovery in the Columbia River basin that are currently underway include initiatives by the Northwest Power and Conservation

Council to mitigate impacts of the Federal Columbia River Power System. Council initiatives include development of sub-basin plans in support of regional planning and recovery efforts. State initiatives include recently passed legislative measures to facilitate the recovery of listed species and their habitats, as well as the overall health of watersheds and ecosystems. Regional programs are being developed that designate priority watersheds and facilitate development of watershed management plans. Several tribes have developed a joint restoration plan for anadromous fish in the Columbia River basin, known as the Wy-Kan-Ush-Mi Wa-Kish-Wit or Spirit of the Salmon plan (CRITFC 1995). All of these regional efforts are expected to help increase salmon and steelhead populations in the action area because of compatible goals and objectives.

The proposed activities in the Imnaha River subbasin are also designed with a mandate for sustainable resource use under both Federal and State law and policy. Fisheries that may impact listed salmon and steelhead within the action area are managed based on the impact to listed fish that are returning to the Snake River. Because the allowable impacts on listed species are based on a maximum allowable incidental impact rate in conjunction with a carefully managed conservation program, if other conservation measures are unsuccessful in returning fish to the area, fishery impacts would be constrained. If the cumulative effects of other fisheries or conservation efforts do not allow sufficient escapement of returning adult salmon to the Imnaha River to meet conservation needs plus support a fishery, tribal and recreational fishing would be constrained or closed.

If the cumulative effects of salmon management efforts fails to provide harvestable fish, then impacts due to fishing in the Snake River would not be allowed. Therefore, the cumulative impacts of NMFS' current Proposed Action are expected to be minor, because of reporting and monitoring requirements that would ensure compatibility with other conservation strategies. Conservative management of fishing opportunity is only one element of a large suite of regulations and environmental factors that may influence the overall health of listed salmon populations and their habitat. The recreational fishing program is coordinated with monitoring and adaptive management measures so that fishery managers can respond to changes in the status of affected listed salmon. Monitoring and adaptive management would help ensure that the affected ESU is adequately protected and would help counter-balance any potential adverse cumulative impacts. A healthy and self-sustaining Imnaha River chinook salmon population would be an important component in long-term recovery of the ESU as a whole.

5.0 Agencies Consulted

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U.S. Fish and Wildlife Service
Oregon Department of Fish and Wildlife
Nez Perce Tribe

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